

N^o 27,408



A.D. 1912

(Under International Convention.)

Date claimed for Patent under Patents and Designs
Act, 1907, being date of first Foreign Appli- } 12th June, 1912
cation (in the United States), }

Date of Application (in the United Kingdom), 28th Nov., 1912

Accepted, 27th Mar., 1913

COMPLETE SPECIFICATION.

Improvements in Methods of Producing Ready-mixed Paints.

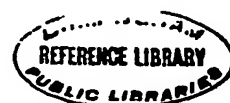
I, FRANKLIN FOLKERTS BRAINLEY, Manufacturer, 2029, Dearborn Street, Chicago, County of Cook, State of Illinois, United States of America, do hereby declare the nature of my said invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to improvements in the art of making paints, and has for its object the provision of a method of producing ready-mixed paints possessing many desirable characteristics, among which may be noted the economy with which paints of the character stated may be made and handled commercially, the long preservation of the paint constituents in their original and unimpaired condition, and the predetermined accurate results as to color, *etc.*, resulting from an intermingling of such constituents, all incident to the practice of the method referred to. Heretofore, in this art, it has been the practice to form the base and tinting constituents of paints in bulk within large vats or tanks, and then (following what might be termed quite an experimental practice) assemble the approximate proportions of base and tinter, still in large quantities or bulk, mix the two together, test and retest, and, by adding more coloring matter or base, finally acquiring the desired color or shade. The product was then placed in cans of suitable conveniently marketable size and sold to the dealers by whom it was dispensed to the ultimate user.

The method of making the paint by the uninterrupted method referred to is objectionable in many instances in view of the fact that it contemplates the immediate intermixing of the paint constituents when storing the completed product in cans which at times are not required by the demands of trade for many months and even years, under which conditions at least a portion of the completed product materially deteriorates by reason of the reaction of the paint constituents upon each other.

To overcome the disadvantage to which I have just alluded, one branch of my improved method embraces the step of interruption, or non-continuous process, consisting in individually preserving complementary tinters and bases following all experimental stages of operation and when accurate results following from a commingling of the two constituents together are positively determined and assured, until a time immediately preceding an expected use of any given paint, when the constituents are then brought together and the paint completed, requiring merely the manipulation of the novice, so to speak, obviating additional experiment or test and attending practically no hazard of failure of successful results in obtaining that exact volume and exact color or tint sought.

[Price 8d.]



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From the standpoint of economy, it is at present impossible to calculate the large saving in loss of stock, both on the part of a manufacturer and dealer, in addition to the betterment of the final product as above outlined, inherently involved in the practice of my method, because while heretofore it was necessary for the manufacturer to make up a complete commercial line of paints each complete in itself, of the various standard colors and shades, necessitating, also, the carrying of said line of completed paints by the dealer, many of which colors and shades were seldom and in instances rarely in demand, resulting in loss of space, loss of the use of capital invested, and loss of the products themselves in case of deterioration, the practice of my method resulting in a saving in all of these respects. To the end just stated, the individual storing and preservation of the separate bases and the separate tinters, requires relatively few bases each capable of a mixture with a plurality of tinters brought together simply on occasions require. Dealing with this phase of the method more specifically, it may be stated that the stock which it is customary to have on hand is reduced to a minimum and roughly speaking, need be no larger than from one-seventh to one-fifth of the volume of paint material previously required to be made and carried. The ordinary commercial necessities in the mixed paint trade are usually satisfied from stocks that contain paints of thirty-two different shades of color (which number obviously may vary), namely, silver gray, pearl gray, French gray, pure gray, lead, slate, sky blue, azure blue, pink, pale yellow, cream, Milwaukee brick, bright yellow, canary, straw, buff, Lemont stone, sage yellow, fawn, terra cotta, silk green, Bedford stone, sea green, pea green, bright brown, red brown, cherry, maroon, willow green, moss green, blind green and myrtle green. All but the last eight of these shades of color require what is called a white base commonly made of white lead, zinc oxid linseed oil and Japan drier. The last four of the shades of color above listed require a green base commonly made of chrome green, magnesium silicate, linseed oil and Japan drier. The remaining four shades of color require a red base commonly made of iron oxid, magnesium silicate, linseed oil and Japan drier. Tinters are added to the bases to produce paints of thirty-two different shades of color in the example taken. The tinter in the paint of each shade constitutes about five per cent. of the aggregate volume of tinter and base. Heretofore it was necessary to carrying sufficient mixed paint of each shade to meet the probable demands of the trade in order to avoid delays and, as a consequence, many lots of unused and, owing to delay and deterioration, unusable stocks were held for long periods of time.

In carrying my method into practical effect I at first produce separate masses of different paint bases, for example, base white, base green, base red, in keeping with any usual or preferred formula, of definite characters and capable of producing, when tinted, the substantially complete line of mixed paints. I also produce, in keeping with any usual or preferred formula, separate masses of tinting different substances, also of definite character and in number in accordance with said complete line of paints and thus in correspondingly greater number of separate masses as compared to the number of separate masses of bases each of the tinting masses being complementary to at least one of the bases. I then divide the base masses into minor bodies of definite volume and divide the tinting masses into minor tinting bodies of definite volume adapted to be mixed with said minor base bodies.

The individual minor tinting bodies and the individual minor base bodies are then stored and preserved in independent containers until approximately the time the completed paints are to be actually used, when the tinting bodies with their complementary minor base bodies are brought together so that the resultant product in each instance will constitute a definite quantity of paint material insuring by their mixture paints of desired definite colors. It is to be here noted that all experimental stages incident to the making of paints are passed by me at the time the tinting and base bodies are about to be confined and

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preserved in their respective containers, and with reference to the base materials I would state that the appropriate amount is in each instance placed in a can of the standard or given size to contain the final completed product, space being left in the can for the tinter, and the tinters are contained within tubes of a definite size determining the amount of tinter complementary to the amount of base so that one unskilled in the art need only introduce the tinter into the can of base and mix the same, the result being previously insured and it being impossible that too much or too little tinter be delivered to any base body. In furtherance of accuracy and to avoid mistake, even by the most careless persons, I appropriately designate on the tubes and cans, or otherwise as may be found expedient, the inter-relation and the expected use of the minor tinting and minor base bodies with each other, thus guiding to the successful results at which I aim. The size of the base cans may be varied at will but ordinarily they will be of the usual quart, half gallon and gallon capacity, and the tubes for the tinters, preferably of the collapsible variety, will be of correspondingly relatively different sizes, the relation between the tubes and cans being indicated for example by placing "B.W." (base white) on such a base, and the words "To be used with B.W." on such tinters as are appropriate for use with the base referred to.

By the practice of my improved method I have found from experience that, to accomplish the same results, it is possible to make and carry as little as fourteen *per cent.* of the volume of paint material which it has heretofore been required to make and carry to satisfy the demands of the trade.

I have heretofore mentioned the fact that the ingredients of the base materials and the tinting materials may be those usually employed, or other materials when found preferably or expedient so that it will be unnecessary to outline specific formulae herein other than to say that the paint bases are usually liquid and the tinters liquid, semi-paste or paste-like, capable when mixed together of producing paints of proper consistency for intended purposes.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1) A method of compounding mixed paints in which are produced separate masses of different paint bases of definite character capable of producing, when tinted, a substantially complete line of mixed paints, and separate masses of different tinting substances of definite character in number relatively greater than the separate masses of different paint bases to accord with the shades of said complete line and each complementary in character to at least one of the paint bases; characterized by the division of the base masses and tinting masses each into minor bodies of definite volume, the storage and preservation of the individual minor tinting bodies and the individual minor base bodies in independent containers, appropriately designating and indicating the inter-relation and the expected use with each other of the minor tinting and the minor base bodies, and subsequently bringing together in the containers of the selected minor base bodies the desired minor tinting bodies with their complementary minor base bodies so that the resultant product in each instance will constitute a definite quantity of paint material insuring, when mixed, paint of desired definite color.

2) The method of compounding mixed paints herein disclosed.

Dated this 28th day of November, 1912.

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Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1913.

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